

Logic Programming

Assume we have facts for the predicates:

```
human(john) .
human(paul) .
human(mary) .

male(john) .
male(paul) .

female(mary) .

father(john,mary) .

mother(mary,paul) .
```

Exercise

Write Horn clauses defining the following predicates with the given meaning.

- a) **man(X)** A man is a human who is male
 woman(X) A woman is a human who is female
- Solution: **man(X) :- human(X), male(X) .**
 woman(X) :- human(X), female(X) .
- b) **parent(X,Y)** X is the parent of Y if it is either the father or the mother of Y
- Solution: **parent(X,Y) :- mother(X,Y) .**
 parent(X,Y) :- father(X,Y) .
- c) **ancestor(X,Y)** An ancestor is the parent or an ancestor of a parent
- Solution: **ancestor(X,Y) :- parent(X,Y) .**
 ancestor(X,Y) :- parent(X,Z), ancestor(Z,Y) .